

REMARKS

Claims 1-30 are pending in the present application. Claims 1, 14, 18, 21-24, and 27-30 have been amended, without acquiescence or prejudice to pursue the original claims in a related application. No new matter has been added.

Objections to the Drawings

The Office Action indicates that the drawings have been objected to because Figure 3 contains words typed over lines and Figures 3 and 5 contain text that has been “cut off” on the bottom. Enclosed herewith is a set of corrected drawings pursuant to 37 CFR 1.121(d) to replace the previously filed unacceptable drawings. A new sheet with FIG. 3 has been added to the drawings to address the drawing objections, which shows words that are not typed over lines and text that is not cut off. A new sheet with FIG. 5 has been added to the drawings to address the drawing objections, which shows text that is not cut off. Based upon the submission of the corrected drawings, Applicants respectfully request withdrawal of the drawing objections.

Objections to the Specification

The Office Action indicates that the Specification has been objected to because page 2, line 2 contains a hyperlink and/or browser executable code. The Specification has been amended and is in compliance with MPEP § 608.01. Applicants respectfully request withdrawal of the objection.

The Office Action indicates that the Specification has been objected to because paragraph [0032], line 4 refers to element 304 in Figure 4 but should refer to element 404. The Specification has been amended to correct the typographical error. Applicants respectfully request withdrawal of the objection.

Claim Objections

According to the Office Action, the Examiner requested claims 1, 21, 27, and 28 be revised to clarify the invention. Claims 1, 21, 27 and 28 have been amended to clarify the invention as requested. Applicants respectfully request withdrawal of the claim objections.

According to the Office Action, claims 1, 27 and 28 would be better if written “general programming language portion.” Claims 1, 27, and 28 have been amended to clarify the invention. Applicants respectfully request withdrawal of the claim objections.

According to the Office Action, claims 21, 22, and 23 would be better revised. Claims 21, 22, and 23 have been amended to clarify the invention. Applicants respectfully request withdrawal of the claim objections.

Claim Rejections Under 35 U.S.C. § 112

Claims 1-17, 24, 27, 28 and 30 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite, for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

1. Claim 1 stands rejected because it is allegedly unclear whether “an external debugger” refers to the debugger in line 4. Applicants thank the Examiner for indicating insufficient antecedent basis. Claim 1 has been amended to ensure sufficient antecedent basis and Applicants respectfully request withdrawal of the claim rejection.

Claim 1 stands rejected because it is allegedly unclear whether the request in “a simulator request” is from the same simulator as in line 3. Applicants respectfully submit that there is proper antecedent basis for both a simulator request and a simulator in the claim. Applicants respectfully request withdrawal of the claim rejection.

2. Claims 1, 27, and 28 stand rejected because it is allegedly unclear how a method, process and system for “debugging an electrical design having both an HDL portion and a general programming language portion” would have limitations “interrupting a simulator”, “handling a simulator request with an external debugger” and “executing the request processing function at the simulator” to “debug” the electrical design. Without acquiescence to the stated reason for

rejection, Applicants have amended the claims to further clarify the invention. Applicants respectfully request withdrawal of the claim rejections.

3. Claims 14 and 24 recite the limitation “expr” that is allegedly vague and indefinite since it does not define an actual expression that is being called. Without acquiescence to the stated reason for rejection, Applicants have amended the claims to further clarify the invention. Applicants respectfully request withdrawal of the claim rejections.

4. Claims 27 and 30 recite “a computer program product comprising a computer usable medium having executable code to execute a process” and “a computer program product comprising a computer usable medium having executable code to execute a method.” Applicants respectfully submit that claims 27 and 30 recite limitations for a computer program product that executes a process or a method, respectively. Applicants respectfully request withdrawal of the claim rejections.

5. Claim 27 stands rejected because it is allegedly unclear whether “an external debugger” refers to the debugger in line 6. Applicants thank the Examiner for indicating insufficient antecedent basis. Claim 27 has been amended to ensure sufficient antecedent basis and Applicants respectfully request withdrawal of the claim rejection.

Claim 27 stands rejected because it is allegedly unclear whether the request in “a simulator request” is from the same simulator as in line 7. Applicants respectfully submit that there is proper antecedent basis for both a simulator request and a simulator in the claim. Applicants respectfully request withdrawal of the claim rejection.

6. Claim 28 stands rejected because it is allegedly unclear whether “an external debugger” refers to the debugger in line 4. Applicants thank the Examiner for indicating insufficient antecedent basis. Claim 27 has been amended to ensure sufficient antecedent basis and Applicants respectfully request withdrawal of the claim rejection.

Claim 28 stands rejected because it is allegedly unclear whether the request in “a simulator request” is from the same simulator as in line 3. Applicants respectfully submit that there is proper antecedent basis for both a simulator request and a simulator in the claim. Applicants respectfully request withdrawal of the claim rejection.

7. Claim 30 stands rejected because it is unclear whether a method or system is being claimed. Applicants thank the Examiner for indicating a typographical error in the claim. Claim 30 has been amended to claim a system. Applicants respectfully request withdrawal of the claim rejection.

Claim Rejections Under 35 U.S.C. § 101

Claims 1-30 stand rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter.

1. According to the Office Action, claims 1-17, 18- 26, and 28 allegedly recite methods that lack a practical application due to a failure to produce a useful, concrete and tangible result. Without acquiescence to the stated reason for rejection, independent claims 1, 18, and 28 have been amended. Thus, Applicants respectfully request that the rejections be withdrawn for independent claim 1 18, and 28, and their respective dependent claims.

2. Claims 27 and 29 are rejected under 35 U.S.C § 101 because the claimed invention is allegedly directed toward non-statutory subject matter. According to the Office Action, claims 27 and 29 are allegedly not limited to a tangible embodiment. Without acquiescence to the stated reason for rejection, Claims 27 and 29 have been amended. For at least the foregoing reason, Applicants respectfully request that the § 101 claim rejections be withdrawn.

According to the Office Action, claims 27 and 29 allegedly recite computer program products that allegedly lack a practical application due to a failure to produce a useful, concrete and tangible result. Without acquiescence to the stated reason for rejection, independent claims 27 and 29 have been amended. Thus, Applicants respectfully request that the rejections be withdrawn for independent claims 27 and 29.

3. According to the Office Action, claim 30 allegedly recites a system that allegedly lack a practical application due to a failure to produce a useful, concrete and tangible result. Without acquiescence to the stated reason for rejection, independent claim 30 have been amended. Thus, Applicants respectfully request that the rejections be withdrawn for independent claim 30.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-7, 12-17, 27 and 28

Claims 1-7, 12-17, 27 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,182,258 issued to Hollander (“Hollander”) in view of “A Procedural Language Interface for VHDL and its Typical Applications” written by Francoise Martinolle and Adam Sherer (“Martinolle”).

1. Amended claim 1 recites the limitation “the **external debugger** debugging the **general programming language portion**... handling a **simulator request** with the **external debugger** for the simulator that is interrupted.” Claims 27 and 28 recite similar limitations. Applicants agree with the Examiner that Hollander does not teach **handling a simulator request** with an **external debugger**. Applicants respectfully submit that Martinolle does not correct the deficiencies present in Hollander. Martinolle discloses an **interface for altering a VHDL simulation** and does not disclose handling a simulator request with an **external debugger**, the external debugger debugging the **general programming language portion**.

According to the Office Action, section 2.4, lines 3-5 and section 3 paragraph 1, lines 7-11 of Martinolle teaches handling a simulator request with an external debugger. Applicants respectfully submit that Martinolle does not teach or suggest handling a simulator request with an **external debugger**, the external debugger debugging the **general programming language portion**.

Martinolle is directed toward an interface to communicate with the simulation by modifying simulation values and scheduling future simulation events, and control the simulation by interrupting a simulation (section 2, and section 2.4, lines 5-9). Martinolle discloses that a **debugger can be written** with an interface that allows for access and control of the VHDL simulation (e.g. interrupts) and communication with the simulation (e.g. modifying values and scheduling future events) during the simulation (section 3).

Martinolle discloses an interface to communicate with a VHDL simulation to alter the simulation (e.g. modifying simulation values, scheduling of future simulation events) and that a **debugger** can be written with the interface that **allows for control of the VHDL simulation**. Martinolle is *silent* with respect to an **external debugger** debugging the **general programming**

language portion, much less an external debugger that handles both a simulator request and debugs the general programming language portion. Further, the Martinolle interface does not disclose the ability to communicate or debug a general programming language portion. To the extent that the Examiner feels the Martinolle interface can be used to write a debugger, a debugger written with the Martinolle interface could not debug a general programming language because the Martinolle interface only provides the ability to communicate with a VHDL simulation (e.g. modification of simulation values, scheduling events, and simulation interrupts). Thus, Martinolle does not teach or suggest handling a simulator request with an **external debugger**, the external debugger debugging the **general programming language portion**.

2. Amended claim 1 recites the limitation “handling a simulator request with the external debugger for the simulator that is interrupted, the external debugger calling a request processing function at the simulator, the simulator request for simulation of the HDL.” Claims 27 and 28 recite similar limitations. Applicants agree with the Examiner that Hollander does not teach **handling a simulator request** with an **external debugger**. Applicants respectfully submit that Martinolle does not correct the deficiencies present in Hollander. Martinolle discloses an interface for a C application to alter the simulation during the simulation and does not teach or suggest **handling a simulator request** with an **external debugger** for the **simulator that is interrupted**.

According to the Office Action, section 2.4, lines 3-5 and section 3 paragraph 1, lines 7-11 of Martinolle teaches handling a simulator request with an external debugger. Applicants respectfully submit that Martinolle does not teach or suggest **handling a simulator request** with an **external debugger** for the **simulator that is interrupted**.

Martinolle is directed toward an interface to communicate with the simulation by **modifying simulation values** and **scheduling future simulation events**, and control the simulation by interrupting a simulation (section 2, and section 2.4, lines 5-9). Martinolle discloses that **a debugger can be written** with an interface that allows for control of the VHDL simulation (e.g. interrupts) and communication with the simulation (e.g. modifying values and scheduling future events) during the simulation (section 3).

Martinolle discloses an interface to communicate with an HDL simulation during the simulation to alter the simulation by modifying simulation values, scheduling of future simulation events and interrupting the simulation. Martinolle is *silent* with respect to handling a simulation request with an external debugger, much less handling a simulation request with an external debugger for a simulation that is **interrupted**. It is not clear from the Office Action whether the Examiner considers the modification of values, scheduling of future simulation events or simulation interrupts to be a simulation request. However, all communication taught by Martinolle (e.g. modification of simulation values, scheduling events, and simulation interrupts) allows a **C application** to **alter the course of the ongoing simulation** and does not teach a **simulation request** handled by an external debugger for a simulation **that is interrupted**. Thus, Martinolle does not teach or suggest **handling a simulator request** with an **external debugger** for the **simulator that is interrupted**.

For at least these reasons, Applicants submit that Hollander in view of Martinolle fails to anticipate every limitation of claim 1. Because claims 27 and 28 share each of the limitations of claim 1 discussed above, they are not anticipated by Hollander in view of Martinolle. Furthermore, because claims 1-7 and 12-17 depend from claim 1, they also are not anticipated by Hollander in view of Martinolle.

Claims 8-11

Claims 8-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hollander in view of Martinolle and further in view of U.S. Patent No. 6,466,898 issued to Chan (“Chan”).

Applicants respectfully submit, as discussed above, that Hollander in view of Martinolle fails to anticipate all the limitations of claim 1, from which claims 8-11 depend. Chan does not disclose the deficiencies present in Hollander and Martinolle. Chan is directed toward a multithreaded HDL logic simulator and Chan is silent with respect to a debugger. Thus, Chan does not disclose **handling a simulator request** with an **external debugger** for the **simulator that is interrupted** and Applicants respectfully request that the rejection be withdrawn.

For at least these reasons, Applicants submit that Hollander in view of Martinolle fails to anticipate every limitation of claim 1. Because claims 8-11 depend from claim 1, they also are not anticipated by Hollander in view of Martinolle and in further view of Chan.

Claims 18-26, 29 and 30

Claims 18-26, 29 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hollander in view of by Martinolle (Martinolle) and further in view of U.S. Patent No. 6,466,898 issued to Chan (Chan).

Amended claim 18 recites the limitation “handling the one or more waiting requests for processing of the first language portion by having processing of the second language portion call a request processing function at the first language portion that has been interrupted.” Claims 29 and 30 recite similar limitations. Applicants agree with the Examiner that Hollander does not teach **handling** the one or more waiting **requests** for processing **of the first language** portion by having **processing of the second language** portion **call** a request **processing function** at the **first language** portion **that has been interrupted**.

According to the Office Action, section 2.4, lines 3-5 and lines 15-40 of Martinolle teaches handling a simulator request with an external debugger. Applicants respectfully submit that Martinolle does not teach **handling** the one or more waiting **requests** for processing **of the first language** portion by having **processing of the second language** portion **call** a request **processing function** at the **first language** portion **that has been interrupted**.

Martinolle is directed toward an interface to communicate with the simulation to alter the simulation by modifying simulation values and scheduling future simulation events, and control the simulation by interrupting a simulation (section 2, and section 2.4, lines 5-9). Martinolle discloses that **a debugger can be written** with an interface that allows for control of the VHDL simulation (e.g. interrupts) and communication with the simulation (e.g. modifying values and scheduling future events) (section 3).

Martinolle discloses interface to communicate to with an HDL simulation to alter the simulation **during simulation** by modifying simulation values, scheduling of future simulation events and interrupting the simulation. Martinolle is *silent* with respect to **requests** for processing **of the first language** portion that has been **interrupted**. It is not clear from the

Office Action whether the Examiner considers the modification of values, scheduling of future simulation events or simulation interrupts to be requests for processing of the first language. However, all communication taught by Martinolle (e.g. modification of simulation values, scheduling events, and simulation interrupts) allows a **C application** to **alter the course of the simulation** during simulation and does not teach **handling** the one or more waiting **requests** for processing **of the first language** portion by having **processing of the second language** portion **call** a request **processing function** at the **first language** portion **that has been interrupted**.

Chan does not disclose the deficiencies present in Hollander and Martinolle. Chan teaches away from a processing function at a first language portion and processing of a second language. Instead, Chan is directed toward a logic simulator that can process two languages, VHDL and Verilog, in a single program. Thus, Chan does not teach **handling** the one or more waiting **requests** for processing **of the first language** portion by having **processing of the second language** portion **call** a request **processing function** at the **first language** portion **that has been interrupted**.

For at least these reasons, Applicants submit that Hollander in view of Martinolle and in further view of Chan fails to anticipate every limitation of claim 18. Because claims 29 and 30 share each of the limitations of claim 18 discussed above, they are not anticipated by Hollander in view of Martinolle and in further view of Chan. Furthermore, because claims 19-26 depend from claim 18, they also are not anticipated by Hollander in view of Martinolle and in further view of Chan.

CONCLUSION

On the basis of the above remarks, reconsideration and allowance of the claims is believed to be warranted and such action is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Bingham McCutchen's Deposit Account No. **50-4047**, referencing billing number **7037682001**. The Commissioner is authorized to credit any overpayment or to charge any underpayment to Bingham McCutchen's Deposit Account No. **50-4047**, referencing billing number **7037682001**.

Respectfully submitted,
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Dated: June 20, 2007

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